Guest Editorial

# Lessons from Laurie Jean Mathiason: The Obligation of Risk Management

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Earlier this year marked the fifth anniversary of a pivotal event in Canadian chiropractic history. On February 7th, 1998, Laurie Jean Mathiason, aged 20, of Saskatchewan, died after slipping into a coma on a chiropractor's table. This followed a treatment session that included cervical spine manipulative therapy.

News of Ms. Mathiason's death rippled throughout the chiropractic community and shortly afterwards, it appeared that the profession was under siege. The media and the critics of chiropractic in Canada subsequently delivered the message to the general public that chiropractic neck manipulation, particularly upper cervical adjustments that utilise extension and rotation manoeuvres, was unsafe.

Naturally, this contradicted the practice experience and conventional wisdom of many chiropractors: surgery is risky, drugs are risky, but neck adjustments - the quintessential chiropractic treatment – are inherently safe. This belief still underlies the ongoing debate into chiropractic's safety, five years after the death of Ms. Mathiason.

I used to feel that the safety of chiropractic treatment was unquestionable. I still believe that relatively and statistically speaking, cervical spinal manipulative therapy is a low risk procedure. However, the benefit of objectivity that time for reflection provides has refined my thoughts on this matter. Now that the issue of safety has been raised, it appears that the chiropractic profession has a new set of obligations to its patients and to its professional colleagues that has yet to be met.

After the inquest into the death of Ms. Mathiason, Dynamic Chiropractic led with the headline, "Chiropractic Acquitted in Canada" and highlighted that "The jury did not conclude that her death was the result of chiropractic manipulation"[1]. Actually, what the inquest concluded was that Ms. Mathiason died as a result of a "traumatic rupture of the left vertebral artery".

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The headline, in retrospect, appeared to be a misrepresentation of the jury's recommendations, which were geared towards avoiding future adverse events through posted warnings, development of screening procedures and future research considerations. It is reasonable to assume that the jury acknowledged at least some association between the event and the chiropractic treatment in order to make these recommendations.

In time, I learned that the role of an inquest is not to assign blame, but rather to determine the circumstances surrounding a death and to ascertain methods for preventing similar deaths in the future. For the chiropractic profession to use the Mathiason Inquest's conclusions and the perceived 'lack of blame', as vindication of one of chiropractic's fundamental treatment procedures is ethically repugnant.

It is difficult to question one's core beliefs or values, or worse, to have them questioned by an outside source, but this should have occurred as a result of the Mathiason Inquest. The allegation that a treatment procedure is unsafe makes it incumbent upon the deliverers of the treatment to demonstrate both the safety and the benefits of the procedure.

Regrettably, five years later, official representatives of the chiropractic profession in Canada are still publicly discounting Ms. Mathiason's death as an unfortunate statistic and unrelated to the chiropractic treatment[2]. This attitude drives the continued perception that the chiropractic-stroke link remains primarily a political issue rather than a scientific and epidemiological one.

This is understandable, given the media attention that this issue has garnered and the very public involvement of some of the chiropractic's harshest critics. The issue has also raised the concern of patients and health care professionals alike adding intensity to the matter.

For our part, the chiropractic profession must be willing to separate the perception of the critics' political opportunism from the very real and serious suggestion that one of the profession's primary treatment procedures is unsafe. It is now our duty to investigate any allegation that a treatment carries a danger and either provide the evidence that the risk is worth the potential benefit and/or be prepared to make reasonable changes to treatment procedures, based upon any new and compelling evidence that might emerge.

That should have been the natural consequence of the Mathiason Inquest. Truly updating and applying best-practice standards is the ongoing obligation of any self-regulated, self-

governing profession. Dismissing Ms. Mathiason's death fails to address such fundamental responsibilities.

It would therefore be inappropriate for the profession to take a position on this issue that is absolute while the evidence is still incomplete and evolving. And yet our profession's spokespeople have made absolute comments[2,3] based on supportive preliminary research after having publicly admonished the researchers who are investigating this issue for overstating their early negative findings[4].

Such rescue bias and ad hominem attacks are without merit and only invite further criticism of the chiropractic profession. Our behaviour in this matter has influenced the political aspect of this debate and as such, we must acknowledge the role our own conduct has played in forging public opinion on the topic.

The chiropractic profession has pursued a very circuitous route in an attempt to convince the Canadian public that cervical spinal manipulative therapy is a safe procedure. In the wake of the Mathiason inquest, we have attempted to deflect criticisms by inappropriately drawing upon the safety record of the medical profession[5]. Such comparisons are typically done without clear insight into the populations involved, or the risk/benefit considerations of the treatments compared.

This is a pointless exercise because in the market of health care delivery, evidence is the currency that decision makers, including patients, will use in determining the treatments that will be sought out, endorsed and paid for. We must consider that nothing will replace strong evidence and ethical conduct in securing the profession's place as a safe and legitimate component of the health care delivery system.

And we can start by asking some very serious questions that should have arisen following Ms. Mathiason's death.

For one, it is my understanding that Laurie Jean Mathiason presented to the chiropractor for care of a lower back/tailbone injury for which she was, at least partially, treated with cervical adjustments. Is it possible that she would still be alive today had she sought treatment from a chiropractor who did not utilise full-spine treatment for a low back complaint? Or a non-manipulative technique? Regardless of the details, such iconoclastic questions will be difficult but should be addressed.

It is unreasonable to dismiss such questions and say that Ms. Mathiason would have eventually died anyway because of some underlying connective tissue pathology or genetic predisposition to arterial dissection. At this point, it cannot be said with any degree of certainty that she would have ever encountered a similar loading scenario that would have resulted in similar consequences.

Similarly, it is not entirely unreasonable to suggest that the treatment itself was coincidental on that fateful day. However, given the timing of the event relative to the treatment and the jury's recommendations, this seems unlikely. It's apparent that the uncertainty of these questions necessitates deep introspection, independent of the political climate that these events triggered.

Even our critics have acknowledged that vertebrobasilar dissections in general are a very rare form of stroke. Nevertheless, our position must be that even just one stroke related to cervical manipulation that could have been prevented is one stroke too many. Recognising that cervical manipulation, relative to cerebrovascular injury, may be causal, contributory or coincidental, future research and educational considerations must be entertained in order to answer the questions that were raised in the wake of the Saskatchewan inquest.

That the Mathiason family lost a child is a tragedy. If we fail to learn from the events surrounding her death and fail to honestly attempt to reduce the likelihood of similar events in the future regardless of how infrequent we believe them to be, then the memory of Laurie Jean Mathiason will have been unnecessarily disrespected.

With the above fresh in my mind it was with great interest that I agreed to provide a brief editorial on a paper[6] regarding risk management for chiropractors and osteopaths. Despite the acknowledged rarity of vertebrobasilar stroke following neck manipulation, the severity of this complication frightens patients and practitioners alike and discourages professional collaboration due to concerns about patient safety.

Witnessing the consequences this issue has wrought in Canada, proactive risk management programs are essential for the growth and evolution of the profession. The guidelines proposed[6], represent a responsible approach towards potentially lowering patient risk based on current evidence.

Despite publications that suggest that neck manipulation involving rotation cannot yet be identified as a causative factor[7], other authors[8-10] appear to concur[6] on limiting or eliminating rotation during manipulation in order to minimise risk. If rotation has been suggested as a risk, this approach is appropriate until evidence suggests that it is either safe or clinically necessary.

These guidelines have also suggested that neck manipulation is but one option in patient care. Utilising alternatives to neck manipulation that are commonly used in chiropractic practice and are currently less frequently associated with vertebrobasilar stroke represents a departure from dogmatic dedication to traditional treatment philosophy. Graded approaches to neck therapy will ensure that at-risk and uncomfortable patients can still benefit from chiropractic care.

Therapeutic guidelines can only be based on current evidence and scientific plausibility. They are a starting point from which the clinician and patient can consider experience and expectations in jointly making informed decisions about suitable therapy. As new and compelling evidence emerges, these guidelines can be updated to assist chiropractors in providing patients with the safest and most effective therapies.

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